

# Psychiatric illness in patients with inflammatory bowel disease

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**SUMMARY** One hundred and sixty two consecutive patients attending a clinic for inflammatory bowel disease (91 Crohn's, 71 ulcerative colitis) were assessed for the presence of anxiety and depression using a simple self-rating questionnaire (HAD scale) and a detailed evaluation (DSM-III). The overall prevalence of psychiatric illness (DSM-III) in ulcerative colitis and Crohn's disease was 34% and 33% respectively. There was no statistically significant association in ulcerative colitis patients between the presence of psychiatric illness and the present physical illness. Psychiatric illness was more common in the physically ill patients with Crohn's disease, compared with those who were well: 50% v 8% ( $p < 0.01$ ), using (HAD) criteria 66% v 37% ( $p < 0.001$ ). The presence of patients between the presence of psychiatric illness and the presence of physical illness. Psychiatric who were well: 50% v 8% ( $p < 0.01$ ) by DSM-III criteria, using (HAD) criteria 66% v 37% ( $p < 0.001$ ). The presence of psychiatric illness adversely affected physical recovery. Seventeen per cent recovered when psychiatrically ill v 53% when psychiatrically well ( $p < 0.025$ ). The HAD scale was assessed as a screening method for psychiatric illness in this medical setting and had a sensitivity of 76% and a specificity of 79%.

There have been few previous studies investigating the interaction between physical and psychiatric illness in patients with inflammatory bowel disease (IBD). A recent mortality survey of Crohn's disease<sup>1</sup> found an excess of suicides in women and a review of our own case records revealed that nearly 25% of 779 patients had been treated at some time for a depressive illness.

Ulcerative colitis and Crohn's disease are chronic, potentially disabling conditions with symptoms of pain, diarrhoea and weight loss, often requiring surgical treatment, sometimes with stoma formation. The illness may disrupt work, family and social life and it is perhaps surprising that two recent studies from the USA<sup>2,3</sup> failed to find an association for either Crohn's disease or ulcerative colitis between the presence of psychiatric illness and the degree of attendant physical morbidity. A growing awareness of the importance of psychological factors in the management of chronic illness stimulated the present study.

We have assessed the prevalence of anxiety and depression in IBD and have also tested a simple

self-rating questionnaire, the Hospital Anxiety and Depression Scale (HAD)<sup>4</sup> as a screening method for detecting psychiatric illness.

## Methods

### PATIENTS

One hundred and sixty two consecutive patients (91 Crohn's disease, 71 ulcerative colitis) attending an IBD clinic were interviewed. An index of physical morbidity was obtained using a clinical rating scale administered by one of us (HA) (Table 1), and all patients completed the Hospital Anxiety and Depression (HAD) scale which is an easily administered self-rating questionnaire. It consists of 14 questions (seven relating to depression and seven to anxiety) which assess the symptoms of anxiety and depression in the previous week. The responses to the questions are not affected by the presence of physical illness. Patients scoring more than 8 (maximum 21) on either part of the test can be regarded as suffering from anxiety or a depressive disorder (Table 2).

A sample of 80 patients taken at random from this group were interviewed by a liaison psychiatrist (PJB) who was blind to the results of the HAD and

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Received for publication 8 May 1987.

Table 1 Clinical rating scale for assessment of physical well being in patients with IBD

	Score
1 General well-being	0-3
2 Abdominal pain	0-3
3 Diarrhoea/flux	0-3
4 Extra intestinal manifestations	0-3
5 Treatment	0-3
Total Score >5 indicates physical illness.	

physical assessment. The structured clinical interview for DSM-III was used to obtain diagnosis according to DSM-III criteria.<sup>5</sup> The DSM-III is a system for classifying psychiatric disorder developed in the USA based on clearly defined diagnostic criteria and is widely used throughout the world.<sup>6</sup>

## Results

### PSYCHIATRIC DISORDER IN PATIENTS WITH IBD CROHN'S DISEASE

#### Details of sample population

Ninety one patients (63% women) with Crohn's disease were examined. Their ages ranged from 14-83 years (mean age 43). Fifteen patients (17%) had a stoma before the study and the treatment in a further six included stoma formation during the follow up period.

Table 2 The HAD Scale questionnaire consists of seven questions concerned with anxiety and seven with depression. The patient ticks one of four boxes associated with each question which are scored from Normal =0 to Severely affected =3

I feel tense and wound up	I still enjoy the things I used to enjoy
I get sort of frightened feeling as if something awful is about to happen	I can laugh and see the funny side of things
Worrying thoughts go through my mind	I feel cheerful
I can sit at ease and feel relaxed	I feel as if I am slowed down
I get a sort of frightened feeling like 'butterflies' in my stomach	I have lost interest in my appearance
I feel restless as if I have to be on the move	I look forward with enjoyment to things
I get sudden feelings of panic	I can enjoy a good book or TV programme

Table 3 Follow-up of psychiatric and physical illness without intervention

Status at first evaluation	Subsequent status at second evaluation			
	Well	Physically Ill	Psychiatrically Ill	Both
Crohn's disease (n=86)				
Well	29	21	2	4
Physically ill	17	9	5	-
Psychiatrically ill	17	1	1	9
Both	23	2	-	2
Ulcerative colitis (n=65)				
Well	27	20	2	5
Physically ill	12	6	4	-
Psychiatrically	13	6	-	5
Both	13	3	3	4

#### Details of follow-up

Four patients were lost to follow up, one died, and the remaining 86 were re-interviewed (Table 3). During this period 13 physically ill patients got better (remission rate 32.5%) and 11 physically healthy patients became ill (relapse rate 24%). Nine patients (20%) developed a psychiatric disorder and only four with an existing psychiatric disorder improved (remission rate 10%). The presence of concurrent psychiatric illness appeared to influence physical recovery in that only four of 23 (17%) recovered physically when a psychiatric disorder was present compared with nine of 17 (53%) when there was no psychiatric disorder ( $p<0.001$ ).

#### Relationship between physical morbidity and psychiatric illness

The prevalence of psychiatric disorder according to DSM III criteria (Table 4) was 33%. The prevalence of psychiatric disorder was independent of the age and sex of a patient and also of the presence or absence of a stoma.

Table 4 Prevalence of psychiatric disorder (DSM-III) classification)

	Crohn's disease (n=45)	UC (n=35)
Simple/social phobia	3	3
Generalised anxiety disorder (GAD)	1	5
Dysthymia/major depressive disorder	11	4
Total prevalence of psychiatric disorder	15 (33%)	12 (34%)
Prevalence of GAD/depression	12 (27%)	9 (26%)

Table 5 Positive cases of psychiatric illness on HAD and physical morbidity in IBD

	Patients (n) (%) Physically well	Physically ill	Total
Crohn's disease n=177			
Psychiatric illness			
HAD>8			
Score	32 (33)*	52 (66)*	84 (47)
No psychiatric illness			
HAD<8			
Score	66	27	93
Ulcerative colitis n=136			
Psychiatric illness			
HAD>8			
Score	29 (31)†	21 (48)†	50 (37)
No psychiatric illness			
HAD<8			
Score	64	22	86

\*  $\chi^2=21.82$ ;  $p<0.001$ . †  $\chi^2=3.21$ ;  $p<0.1$  NS.

A total of 177 HAD tests were available for analysis including those patients who were interviewed twice. The patients were divided into four groups depending on the presence or absence of current physical and psychiatric illness. The findings are presented separately for the HAD and DSM-II diagnosis. Phobic disorders are not included in the analysis as they were usually of many years duration (Tables 5 and 6).

There is a statistically significant association between the presence of psychiatric illness and physical ill health. Sixty six per cent of the physically ill patients had a psychiatric illness on the HAD criteria compared with 37% in the physically well group. The overall prevalence of psychiatric disorder is much lower using the more stringent DSM-III criteria. The association is still present, however, with a prevalence in ill patients of 50% compared with 8% in the healthy.

Table 6 Psychiatric illness DSM-III and physical morbidity in IBD

	Patients (n) (%) Physically well	Physically ill	Total
Crohn's disease n=45			
Psychiatric illness	2 (8)*	10 (50)*	12 (27)
No psychiatric illness	23	10	33
Ulcerative colitis n=35			
Psychiatric illness	6 (46)†	3 (14)†	9 (26)
No psychiatric illness	7	19	26

\*  $\chi^2=7.99$ ;  $p<0.001$ . †  $\chi^2=2.98$ ;  $p<0.1$  NS.

## ULCERATIVE COLITIS

### Details of sample population

Seventy one patients (54% women) with ulcerative colitis were examined. Their ages ranged from 12-77 years (mean age 48). Twenty seven patients (29%) had a stoma before the study started.

### Details of follow-up

Four patients were lost to follow up, two died of ischaemic heart disease, and the remaining 65 were re-interviewed (Table 3). During this period 13 physically ill patients got better (remission rate 52%) and four physically healthy patients became ill (relapse rate 10%). Seven patients (18%) developed a psychiatric disorder and 12 with an existing psychiatric disorder improved (remission rate 46%). The presence of concurrent psychiatric illness did not affect physical recovery.

### Relationship between physical morbidity and psychiatric illness

The prevalence of psychiatric disorder according to DSM-III criteria (Table 4) was 34%. The prevalence of psychiatric disorder was independent of the age and sex of the patient and also of the presence or absence of a stoma.

A total of 136 HAD tests were available for analysis. The patients were divided into four groups depending on the presence or absence of current physical and psychiatric illness. The findings are presented separately for the HAD and DSM-III (Tables 5 and 6). Phobic disorders have also been excluded from this analysis. In the group with ulcerative colitis unlike the findings in the Crohn's disease, there was no statistically significant association between physical and psychiatric morbidity.

**SENSITIVITY AND SPECIFICITY OF THE HAD AS A SCREENING TEST FOR PSYCHIATRIC DISORDERS**  
The value of the HAD as a screening tool for psychiatric illness was also examined. The DSM-III diagnosis was used as the standard against which the performance of the HAD was evaluated.

The sensitivity has been expressed as a ratio of the cases identified by HAD and all the cases of psychiatric illness diagnosed on DSM-III. The specificity is the ratio of true negatives identified by HAD to all the true negatives on DSM-III.

Using a cutoff score of 8+ for either anxiety or depression, the sensitivity of the HAD was 76% (16/21) and the specificity 79% (47/59).

## Discussion

A review of the psychological and social outcomes of Crohn's disease<sup>7</sup> has highlighted the lack of methodo-

logically sound data. Three studies<sup>8-10</sup> which fulfil many of the necessary criteria such as the use of a standardised psychiatric interview and randomly selected patients, found a prevalence of psychiatric disorders of between 30-35%. A recent careful assessment of physical and psychiatric morbidity among 50 consecutive referrals to a gastroenterology clinic has been carried out and compared with a control group of 50 chronically ill medical out-patients.<sup>3</sup> The prevalence of psychiatric disorder was higher in the Crohn's disease group compared with the control group (52% v 30%) thus confirming Crohn's original finding.<sup>11</sup> There was however, no association between the degree of physical morbidity and the presence of psychiatric disorders.

The same workers,<sup>2</sup> discounting several previous studies where diagnostic methods were imprecise and sample sizes small<sup>12-16</sup> adopted a similar research strategy in seeking an association between physical morbidity and psychiatric illness in ulcerative colitis. The prevalence of psychiatric illness was similar in the ulcerative colitis group compared with the controls (26% v 30%) and once again no association was shown between psychiatric illness and physical morbidity.

In the present study for patients with ulcerative colitis there was no significant association between physical morbidity and psychiatric illness, confirming Heltzer's previous finding.<sup>2</sup>

For Crohn's disease, in contrast with Heltzer's finding there was a clear association between the presence of psychiatric illness and the degree of physical morbidity using both HAD and more stringent DSM-III criteria. It may be that the different methods for assessment of physical morbidity and psychiatric disorders influenced the results. The method adopted in this study sought an association at one 'point in time' whereas Heltzer evaluated psychiatric illness and physical morbidity over time. The methods used in the present study are probably more effective in diseases where spontaneous relapses and remission are common.

The usefulness of the HAD as both a rating and screening tool has been established in recent studies. The HAD compares favourably with the General Health Questionnaire GHQ as a screening tool for psychiatric disorders.<sup>17</sup> As a rating scale it has been compared favourably against the Montgomery Asberg Depression Rating Scale, Beck Depression Inventory, and the Clinical Anxiety Scale.<sup>18, 19</sup>

In the present study the HAD performed well when compared with DSM-III diagnosis as a screening method of identifying anxiety or depression in the inflammatory bowel disease clinic and the sensitivity and specificity were similar to previous findings.<sup>4</sup> It should be emphasised that the HAD scale is not a

general screening tool for all psychiatric disorders, but a rating scale for anxiety and depression only.

Patients with psychiatric illness in the hospital and general practice setting will respond to treatment despite the presence of physical illness.<sup>21, 24</sup> A recent survey of Oxford Hospitals<sup>25</sup> however, found that one third of physicians and four fifths of surgeons, never used antidepressants. Most of the patients with psychiatric illness identified in this study could have been managed by their general practitioner or hospital doctor. The remission rate for untreated psychiatric disorders was low (10%) for both ulcerative colitis and Crohn's disease. The HAD scale is both easy to administer and interpret by non-psychiatric staff. Its regular use could detect previously unrecognised psychiatric disorders in patients with IBD which would respond readily to treatment.

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